

Claims

- 5 1. A method for determining a reference level for automatic gain control of a radio frequency signal to be received, particularly having a varying strength, in which method frames of a logical general packet control channel are received, as well as frames which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, wherein
10 said reference level is determined on the basis of at least one frame of a received radio block, or on the basis of at least one preceding frame, or on the basis of both of these, wherein the reference level is corrected on the basis of the signal strength measured during their reception.
- 15 2. A method according to claim 1, wherein the reference level is corrected by calculating its running average with respect to time.
- 20 3. A method according to claim 2, wherein the running average is calculated by using filtering with a varying length.
- 25 4. A method according to claim 2, wherein the running average is calculated by using a predetermined number of frames in the radio block, or in preceding blocks, or in both of them, as a forgetting factor.
- 30 5. A method according to claim 1, wherein for determining the reference level, one or more frames are selected, which directly precede the radio block to be received.
- 35 6. A method according to claim 1, wherein for the determination, one or more frames of the received radio block are selected.
7. A method according to claim 5, wherein the reference value is calculated as a weighted or unweighted average of the signal strength of several frames.

8. A method according to claim 1, wherein the signal strength is determined by using samples measured from the signal.

5 9. A method according to claim 1, wherein a wireless communication unit is used to receive radio blocks and frames transmitted by a base transceiver station of a packet switched communication network based on a cellular system.

10 10. A method according to claim 9, wherein the strength level of the analog signal received in said unit is measured, and the signal gain is corrected on the basis of the determined reference level at predetermined intervals.

15 11. A method according to claim 10, wherein said interval is a time slot corresponding to the frequency of occurrence of the radio block in question.

20 12. A method according to claim 1, wherein said general packet control channel is the PCCCH channel of the GPRS network.

25 13. A method according to claim 1, wherein said control method is constant power control used by the GPRS network in downlink data transmission, power control according to mode A, or power control according to mode B.

30 14. A device for determining a reference level for automatic gain control of a radio frequency signal to be received, particularly having a varying strength, the device comprising means for receiving frames of radio blocks of a logical general packet control channel, as well as frames preceding said radio block, which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, wherein the device comprises means for determining the reference level on the basis of at least one frame of a received radio block, or on the basis of at least one preceding frame, or on the basis of both of these, wherein the device is arranged to correct the reference level on the basis of the signal strength measured during their reception.

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15. A device according to claim 14, wherein the device is a wireless communication unit which is arranged to receive radio blocks and frames transmitted by a base transceiver station of a packet switched communication network based on a cellular system.

16. A device according to claim 14, wherein the device comprises means for measuring the strength level of an analog signal received in said unit and means for correcting the signal gain on the basis of the determined reference level at predetermined intervals.

17. A device according to claim 14, wherein said device is a wireless communication unit operating in the GPRS network.

18. A method according to claim 3, wherein the running average is calculated by using a predetermined number of frames in the radio block, or in the preceding blocks, or in both of these as a forgetting factor.

19. A method according to claim 6, wherein the reference value is calculated as a weighted or unweighted average of the signal strength of several frames.

20. A device according to claim 15, wherein the device comprises means for measuring the strength level of an analog signal received in said unit and means for correcting the signal gain on the basis of the determined reference level at predetermined intervals.

21. A method according to claim 4, wherein for determining the reference level, one or more frames are selected, which directly precede the radio block to be received.

22. A method according to claim 18, wherein for determining the reference level, one or more frames are selected, which directly precede the radio block to be received.

23. A method according to claim 21, wherein the reference value is calculated as a weighted or unweighted average of the signal strength of several frames.
- 5 24. A method according to claim 22, wherein the reference value is calculated as a weighted or unweighted average of the signal strength of several frames.